

## Via-In-Pad With Off-Center Geometry and Methods of Manufacture

### Abstract of the Disclosure

The electrical contacts of an integrated circuit are coupled to printed circuit board (PCB) bonding pads that include vias. A method for fabricating an electronic assembly utilizes at least one operation in which a thermally expansive substance, such as a volatile organic compound (VOC), is applied to the PCB. Some of the VOC goes into the via channels. The electrical contacts of a surface mount technology component such as a ball grid array (BGA) solder ball component are affixed to the bonding pads using a reflow soldering technique. According to one embodiment, the vias are formed off-center, so as to inhibit bridging between adjacent solder balls during a solder reflow operation by minimizing the effect of solder ball ballooning resulting from outgassing of the VOC from the via channels. A substrate and an electronic system are also described.

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